

TABLE 4.13.1 BEECH AVENUE ELEMENTARY SCHOOL RECOMMENDATIONS

ID	Improvement	Description	Location
1a	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on the northeast and southeast corners of the intersection	Hibiscus Avenue and Hemlock Avenue
1b	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on all four corners of the intersection	Hibiscus Avenue and Beech Avenue
1c	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on all four corners of the intersection	Athol Street and Hemlock Avenue
1d	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on the northwest and southwest corners of the intersection	Athol Street and Beech Avenue
1e	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on the northeast and southeast corners of the intersection	Quail Lane and Hemlock Avenue
1f	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on the northeast and southeast corners of the intersection	Los Nietos Court and Hemlock Avenue
1g	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on all four corners of the intersection	Randall Avenue and Hemlock Avenue
1h	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on southeast and southwest corners of the intersection	Randall Avenue and Carob Street
1i	ADA Compliant Curb Ramps	Install ADA compliant curb ramps on all four corners of the intersection	Randall Avenue and Beech Street
2a	High-Visibility Crosswalk	Install high-visibility crosswalk on east leg of the intersection	Hibiscus Avenue and Hemlock Avenue
2b	High-Visibility Crosswalk	Install high-visibility crosswalk on west leg of the intersection	Hibiscus Avenue and Beech Avenue
2c	High-Visibility Crosswalk	Install high-visibility crosswalk on all four legs of the intersection	Athol Street and Hemlock Avenue
2d	High-Visibility Crosswalk	Install high-visibility crosswalk on west leg of the intersection	Beech Avenue and Athol Street
2e	High-Visibility Crosswalk	Install high-visibility crosswalk on east and south legs of the intersection	Beech Avenue and Pine Avenue
2f	High-Visibility Crosswalk	Install high-visibility crosswalk on east and south legs of the intersection	Randall Avenue and Hemlock Avenue
2g	High-Visibility Crosswalk	Install high-visibility crosswalk on all four legs of the intersection	Randall Avenue and Beech Street
3	Speed Feedback Sign	Add a speed feedback sign	Beech Avenue between Pine Avenue to Randall Avenue
4	All-way stop	Add an all-way stop in addition to the existing RRFB. (*)	RRFB at Pine Avenue and Beech Avenue
5	Pavement Markings	Install a northbound left-turn pocket on Beech Avenue at the south school driveway to prevent queuing delay	Beech Avenue at South School Driveway
6	Traffic signal	Add a traffic signal (*)	Beech Avenue and Randall Avenue
7a	Sidewalk	Construct sidewalk	Hibiscus Avenue (N) between Hemlock Avenue and Beech Avenue
7b	Sidewalk	Construct sidewalk	Hibiscus Avenue (S) between Hemlock Avenue and Beech Avenue
7c	Sidewalk	Construct sidewalk	Athol Street (N) between Hemlock Avenue and Beech Avenue
7d	Sidewalk	Construct sidewalk	Athol Street (S) between Hemlock Avenue and Beech Avenue
7e	Sidewalk	Construct sidewalk	Randall Avenue (N) between Hemlock Avenue and Beech Avenue

ID	Improvement	Description	Location
7f	Sidewalk	Construct sidewalk	Randall Avenue (S) between Hemlock Avenue and Beech Avenue
7g	Sidewalk	Construct sidewalk	Hemlock Avenue (W) between Merrill Avenue and Los Nietos Court
7h	Sidewalk	Construct sidewalk	Hemlock Avenue (E) between Merrill Avenue and Randall Avenue
7i	Sidewalk	Construct sidewalk	Beech Avenue (W) between Merrill Avenue and Sequoia Avenue
7j	Sidewalk	Construct sidewalk	Beech Avenue (E) between Merrill Avenue and Sequoia Avenue
7k	Sidewalk	Construct sidewalk	Athol Street (N) between Pine Avenue and Elm Avenue
7l	Sidewalk	Construct sidewalk	Athol Street (S) between Pine Avenue and Elm Avenue
7m	Sidewalk	Construct sidewalk	Pine Avenue (N) between Beech Avenue and Athol Street
7n	Sidewalk	Construct sidewalk	Pine Avenue (S) between Beech Avenue and Athol Street
7o	Sidewalk	Construct sidewalk	Elm Avenue (W) north of Athol Street
8	Red Curb	Install red curb	Beech Avenue (W) between Pine Avenue and South School Frontage

(*) Note: Recommendation will need additional studies to determine warrants

4.14 LIVE OAK ELEMENTARY SCHOOL

9522 Live Oak Ave, Fontana, CA 92335
Fontana Unified School District

Live Oak Elementary School is located in unincorporated San Bernardino County, California, within the City of Fontana Sphere of Influence. Live Oak Elementary School is located on the west side of Live Oak Avenue, between Hawthorne Avenue and San Bernardino Avenue. The school is located approximately 1.0 mile north of the Interstate 10 (I-10) freeway and approximately 0.6 miles southeast of Auto Club Speedway, a Nascar racing track. The land uses surrounding Live Oak Elementary School are primarily residential with some industrial land uses. Figure 4.14.1 shows the school area and the overall context of the school site.



Figure 4.14.1 Context Map

SCHOOL PROFILE

Live Oak Elementary School is located in unincorporated San Bernardino County, within the City of Fontana Sphere of Influence, and is a part of the Fontana Unified School District. It serves approximately 450 students in grades K through 6th with a student/teacher ratio of 19:1. The demographic composition of the students is shown in Figure 4.14.2, which shows that Live Oak Elementary School has a majority Hispanic population, according to the census estimates. Currently, approximately 93.2% of Live Oak Elementary School students received free or reduced-price lunch during the 2023-2024 school year which is significantly higher than the state and the county average (Figure 4.14.3).

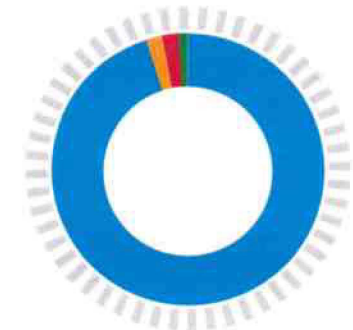


Figure 4.14.2 Demographic Composition

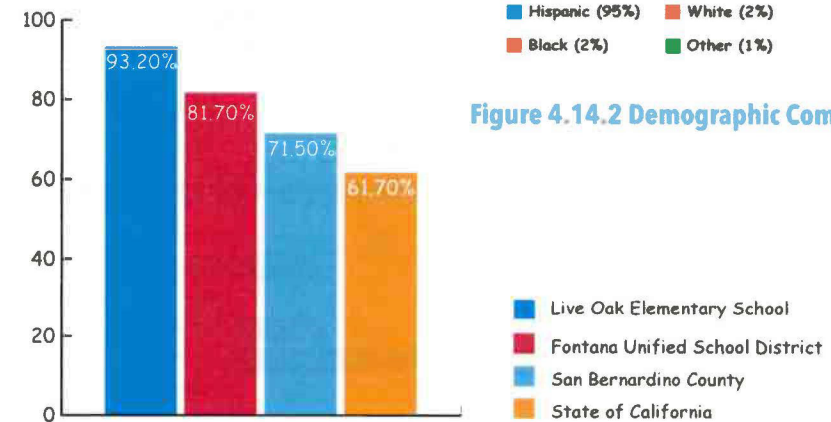


Figure 4.14.3 Free or Reduced Meals (Compare between district and county)

Student Tallies

The Safe Routes to School Student Arrival and Departure Tally Sheet was administered by Live Oak Elementary School staff from January 29 to January 30, 2025, to better understand what mode(s) students use to travel to and from the campus. As displayed in Figure 4.14.4, the vast majority of students arrived and departed in a family vehicle (94% average), followed by walking (5% average) and school bus (1% average), respectively. Live Oak Elementary School has 3 buses that drop students off at the bus loop south of the school on Live Oak Avenue.

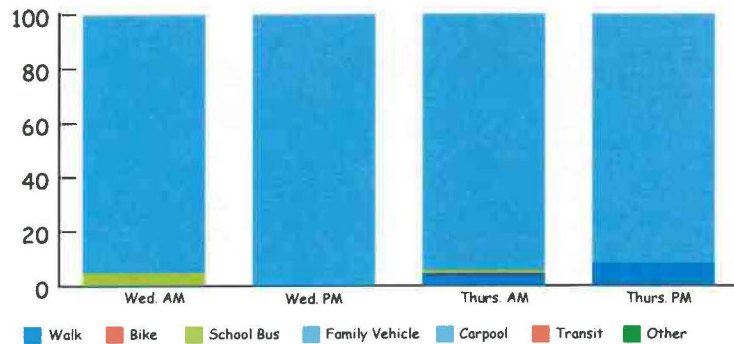


Figure 4.14.4 Live Oak Elementary School Student Arrival and Departure Tallies

Mobility Assessment

A walk audit and on-site meeting at Live Oak Elementary School in unincorporated San Bernardino County was conducted on January 30, 2025. The purpose of the event was to identify issues related to student drop-off or pick-up operations that may make it unsafe or uncomfortable for students to walk, bike, and roll to and from school. Included in this assessment are discussions of observed deficiencies, such as substandard sidewalks, missing curb ramps and crosswalks, inadequate bicycle infrastructure, and high traffic volumes and speeds around the school.

Those who attended the mobility assessment included the Live Oak Elementary School Principal, Assistant Principal, school staff, San Bernardino County staff, CR Associates staff and five caregivers.

An online survey was administered to Live Oak Elementary School parents via SurveyMonkey during the week of January 28th, 2025. Of the 8 recorded responses, 4 parents noted that their children live a quarter mile, or less from school. As shown in Figure 4.14.5 and Figure 4.14.6, vehicles are the most common mode of transportation used for arrival, and vehicles and walking are equally the most common modes used for departure.

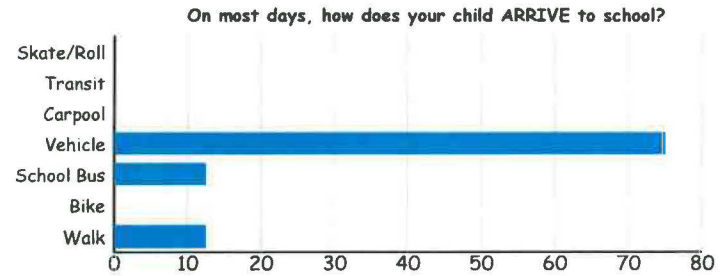


Figure 4.14.5 Live Oak Elementary School Parent Survey Question (arrive to school)

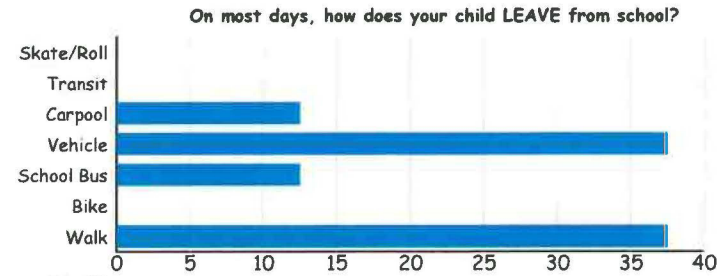


Figure 4.14.6 Live Oak Elementary School Parent Survey Question (leave from school)

CalEnviroScreen 4.0

CalEnviroScreen (CES) is a tool developed by the California Office of Environmental Health Hazard Assessment (OEHHA) that identifies communities that are disproportionately burdened by pollutants. Factors used to identify communities include exposures (traffic, pesticides, and drinking water), environmental effects (cleanup sites, solid waste), sensitive populations (asthma, low birth weight), and socioeconomic factors (education, poverty, unemployment). Scores range from 0-100, with a higher score indicating a higher effect of pollutants for the area. Figure 4.14.7 illustrates the CES scores for Live Oak Elementary School and its surrounding area, scoring in the 90th to 100th percentile, which indicates the area is disproportionately burdened by pollutants.



Figure 4.14.7 CalEnviroScreen 4.0 Score - Live Oak Elementary School

Healthy Place Index

The California Healthy Places Index (HPI), developed by the Public Health Alliance of Southern California, is a tool used to explore the community conditions that impact life expectancy. The HPI tool helps prioritize public and private investments, resources, and programs in neighborhoods where they are needed the most. The HPI tool combines 23 community characteristics such as access to healthcare, housing, education, and more. The tool produces a score ranging from 0-100 with a higher score representing a healthier community. The tool's indicators reflect widely recognized thematic areas of the social determinants of health and are consistent with those described by the Centers for Disease Control (CDC). Figure 4.14.8 illustrates the area surrounding Live Oak Elementary School, which shows an HPI score of 14.0, indicating less healthy conditions surrounding the school.



Figure 4.14.8 Healthy Place Index Score - Live Oak Elementary School

Walking

Figure 4.14.9 provides an overview of the existing pedestrian network challenges, observed and analyzed. The sidewalk network surrounding Live Oak Elementary School is incomplete. During the site visit, it was observed that there were no sidewalks on the east side of Live Oak Avenue south of the school's southern edge of the property line, and disconnected sidewalks on the east and west sides of Live Oak Avenue north of Sequoia Avenue. Broken glass and other litter were observed within the periphery of the school's surrounding street of Live Oak Avenue.

Challenges to walking were evaluated using the Pedestrian Evaluation Score (PES) developed by CR Associates. Based on the physical environment, surrounding land uses, and the street environment, a PES score was developed for nearby roadways. Figure 4.14.10 shows the results of the PES scoring. A sidewalk network with medium and high PES scores indicates relatively low stress for walking, whereas a low or very low PES score can be considered a stressful

walking environment. The roadways near Live Oak Elementary School show primarily medium and high PES scores, with very low scores on San Bernardino Avenue and Randall Avenue. This indicates a relatively lower stress walking environment near the school along the neighborhood roads, and higher stress walking environments along the larger roads.



Figure 4.14.9 Existing Pedestrian Conditions

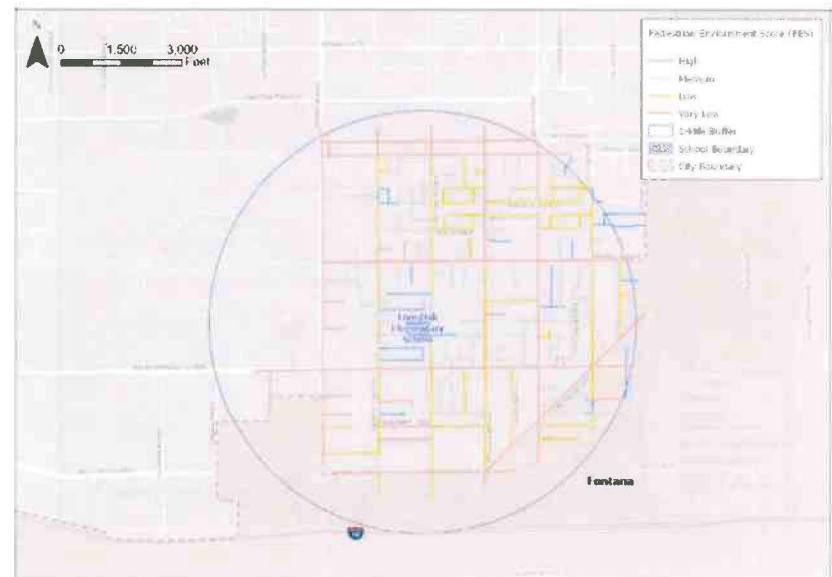


Figure 4.14.10 Pedestrian Evaluation Score

Figure 4.14.11 shows the walkshed for Live Oak Elementary School. The walkshed shows the area where a student can walk one-half mile from the school. The walkshed has been reviewed for sidewalk connectivity and accessibility.

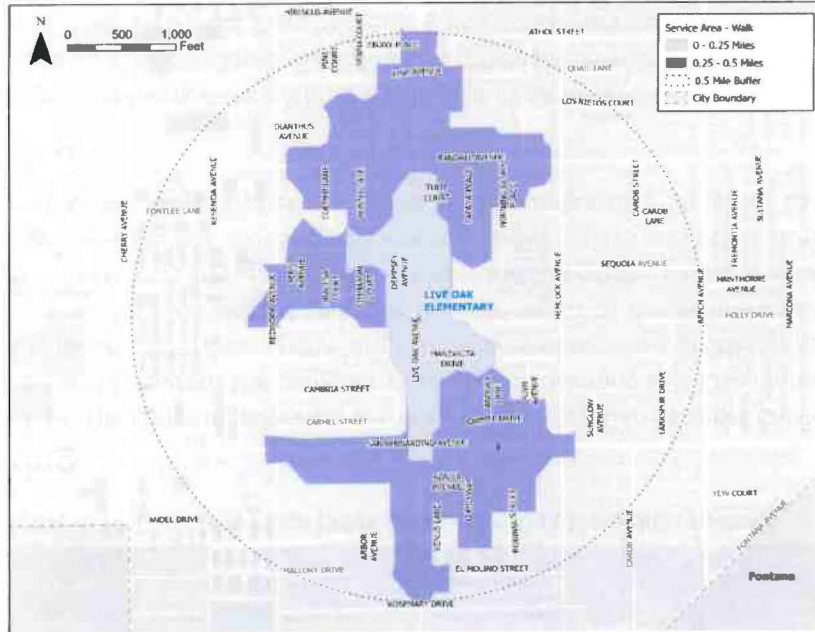


Figure 4.14.11 Existing Pedestrian Walkshed

Riding and Rolling

Currently, there are no bicycle facilities surrounding Live Oak Elementary School and there are no plans to implement bicycle facilities within the school vicinity.

The bicycle environment was assessed using the bicycle Level of Traffic Stress (LTS) methodology for characterizing cycling environments, as developed by Mekuria et al. (2012) of the Mineta Transportation Institute. LTS classifies the street network into categories according to the level of stress it causes cyclists, taking into account a number of factors. The LTS assessment conducted by MBI concluded that the roads immediately surrounding Live Oak Elementary School have LTS scores of 4, indicating high stress levels for cyclists (Figure 4.14.12).

Figure 4.14.13 shows the bikeshed for Live Oak Elementary School. The bikeshed shows the area where a student can bike one mile from the school.

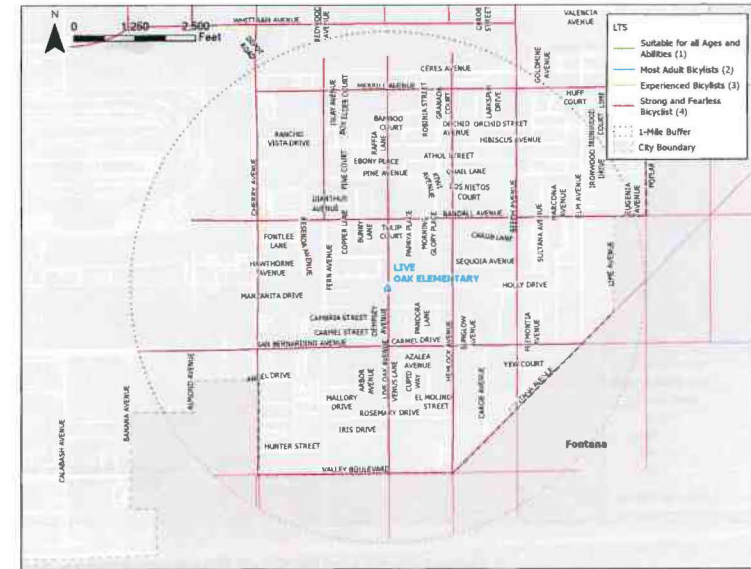


Figure 4.14.12 Bicycle Level of Traffic Stress

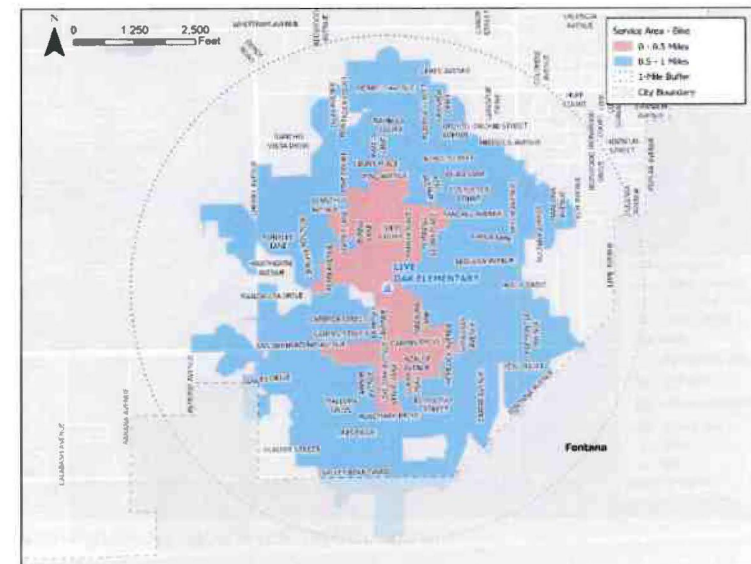


Figure 4.14.13 Existing Bikeshed

Pick-Up and Drop-Off

Live Oak Elementary School is accessed via Live Oak Avenue and Sequoia Avenue. Figure 4.14.14 illustrates the existing conditions, and the behaviors observed during the mobility assessment.

There is currently a crossing guard at the intersection of Live Oak Avenue and Manzanita Drive. This intersection includes a Rectangular Rapid Flashing Beacon (RRFB) controlled crossing with a high-visibility crosswalk and signage. The following signs are present along the east and west sides of Live Oak Avenue:

- "No Parking Commercial Vehicles 5 Tons Gross Weight or Over"
- "School Advance Warning"
- "School Crosswalk"

Parents that are dropping off their children are noted to park in the south parking lot on Live Oak Avenue and cross the parking lot with their children.

Drop-off currently occurs at the Live Oak Avenue parking lot just in front of the school campus. During the site visit, parents were observed arriving nearly 30 minutes prior to the first bell and parking along the school curbside of Live Oak Avenue. Many parents were seen dropping off students at the official unloading area right in front of the school, while other parents were seen dropping off along Live Oak Avenue. The bus loop is located south of the main pick up/drop off loop and is used informally by parents during arrival and dismissal. The south parking lot is open for TK-K parents to park and walk the students over to the school gate. School staff recognize that vehicles park in unofficial spots to drop off students, such as the east side of Live Oak Avenue and the red curb zones throughout Live Oak Avenue. Some parents also double park and drop students off in the travel lane on Live Oak Avenue.



Figure 4.14.14 Existing Pick-Up and Drop-Off Vehicle Behavior

Safety Analysis

Between 2019 and 2023, there were nine bicycle and pedestrian collisions within a one-half mile radius of Live Oak Elementary School. Of the nine collisions, there were two collisions involving a pedestrian who sustained severe injuries and one of which was fatal. These were located on Hemlock Avenue near Quail Lane (2021) and on Live Oak Avenue near San Bernardino Avenue (2022) (Figure 4.14.15).



Figure 4.14.15 Bicycle and Pedestrian Involved Collisions (2019-2023)



Travel Pattern Analysis

A travel pattern analysis was conducted for Live Oak Elementary School to understand how students may be traveling to the campus. Origin-Destination data was downloaded from the Replica Big Data platform, and ArcGIS and Python were the tools used to process the data. Featuring the school site as the destination, the analysis provides insights into the magnitude of trips made to and from the surrounding neighborhoods. The neighborhoods are defined by Traffic Analysis Zones (TAZs) that fall within the school's attendance boundary. The analysis is performed by travel mode for both active travel, which includes walking and biking, and auto travel, which refers to travel by car. The resulting maps display the number of trips by these two modes between the neighborhood TAZs and the TAZ where the school is located.

For each neighborhood, the number of trips made by each travel type was shown using lines on a map (see Figure 4.14.16 and Figure 4.14.17 for active trip and auto trip maps, respectively). A thicker line means more people are estimated to travel using the mode of transportation from that neighborhood. Line thickness can be compared within the same type of travel, such as comparing two walking routes. One can also get a general sense of how walking and driving compare by looking at both sets of lines side by side. However, the lines are scaled differently for each mode of travel, so they should not be compared directly. This data helps reveal how people tend to travel based on several factors, such as the existing walking or biking environment, land uses, physical barriers, population densities and the layout of the roadway network. For Live Oak Elementary School, auto and active modes have relatively similar magnitudes for each respective mode. It should be noted that there is a TAZ north of the school that shows higher activity for auto trips, compared to active trips. This difference in activity may be due to existing active infrastructure barriers, more car-dominant lifestyles or a longer distance between the school and the respective TAZ.



Figure 4.14.16 Active Travel Pattern

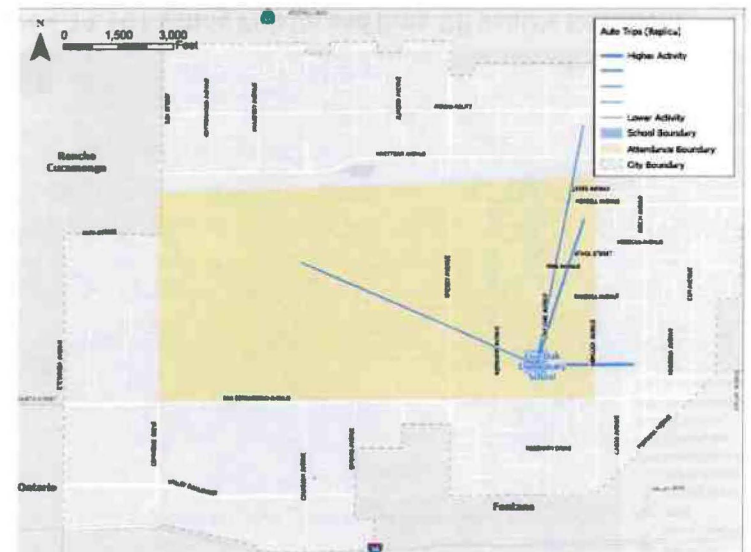


Figure 4.14.17 Auto Travel Pattern

SCHOOL RECOMMENDATIONS

Several improvement opportunities were identified in the mobility assessment conducted for Live Oak Elementary School. Through the student tallies, it was found that the primary mode of travel for most students commuting to and from Live Oak Elementary School was the use of the family vehicle. The principal explained that this may be due to the lack of bicycle facilities, missing sidewalks and large commercial vehicles (distribution trucks) traveling northbound and southbound on Live Oak Avenue. Walk audit participants expressed the everyday frustration of vehicles parking in the red curb zones on the school side of Live Oak Avenue. These vehicles were observed blocking the entrance and exit of the loop driveways and obstructing the line of visibility for drivers exiting the loop. Walk audit participants also emphasized the conflicts at the entrance of the loop, where northbound drivers attempt to enter the loop to cut the queue of vehicles turning southbound into the loop on Live Oak Avenue.

Walk audit participants mentioned the unsafe driving behavior along Live Oak Avenue as noncontributing to the undesirable walking environment. Participants expressed concern with vehicles typically driving over the posted 25 miles per hour (mph) speed limit, and frequent U-turns along Live Oak Avenue. **including the entry and exit points of the drop-off/pick-up loop on Live Oak Avenue. Often, vehicles refuse to give the right-of-way to pedestrians at the crossings because of the traffic on Live Oak Avenue.** The assistant principal, crossing guard and walk audit participants reported speeding on Live Oak Avenue, with vehicles picking up speed near the all-way stop intersection at Randall Avenue and Live Oak Avenue. Another challenge walk audit participants expressed was the limited mid-block crossing opportunities directly adjacent to the school front. In turn, parents were observed crossing at the midblock across Live Oak Avenue.

Several recommendations are provided to improve the traveling experience to and from Live Oak Elementary School. A speed feedback sign is recommended along Live Oak Avenue north of Sequoia Avenue to discourage speeding. To improve visibility and accessibility, high visibility crosswalks and sidewalks are recommended along Live Oak Avenue. To increase and improve east-west crossing opportunities, an RRFB is recommended to be added at the intersection of Sequoia Avenue and Live Oak Avenue. To prevent northbound left turning movements into the school drop off and pick up loop, delineators and a "No Left Turn" sign are recommended at the intersection of Live Oak Avenue and the north school driveway. These recommendations are highlighted in Figure 4.14.18. A summary list of recommendations is provided Table 4.14.1.



Existing Infrastructure	ADA Compliant Ramp	Ramp	Signalized Intersection	Crossing Guard	Marked Crosswalk	High-Visibility Crosswalk	Rectangular Rapid Flashing Beacon	School Signage
	School Site	All-Way Stop	School Zone Speed Limit Sign					
Recommendations	Install High Visibility Crosswalk	Install ADA Curb Ramps	Install Speed Advisory Sign	Construct Sidewalk				
	Install No Left Turn Sign	Improve Existing RRFB	Improve Speed Limit Signage	Add Red Curb	Install Centerline Delineators			

LIVE OAK ELEMENTARY SCHOOL